

Six Sigma MEPRS Management Metrics



Click on a peer group below to view a specific metric:

| Rx Dispensing Costs | Available FTE's per Daily Occupied Bed | Ratio of Support Personnel to Provider FTEs | Rx Workload per Rx FTE | Lab Workload per Lab FTE | Rad Workload per Rad FTE | Inpatient Costs per RVP | Ambulatory Costs per APG |
|---------------------|--|---|------------------------|--------------------------|--------------------------|-------------------------|--------------------------|
| Medical Centers | Medical Centers | Medical Centers | Medical Centers | Medical Centers | Medical Centers | Medical Centers | Medical Centers |
| Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals |
| Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals |
| Large Clinics | Large Hosp OCONUS | Large Clinics | Large Clinics | Large Clinics | Large Clinics | Large Hosp OCONUS | Large Clinics |
| Small Clinics | Small Hosp OCONUS | Small Clinics | Small Clinics | Small Clinics | Small Clinics | Small Hosp OCONUS | Small Clinics |
| Large Hosp OCONUS | | Large Hosp OCONUS | Large Hosp OCONUS | Large Hosp OCONUS | Large Hosp OCONUS | | Large Hosp OCONUS |
| Small Hosp OCONUS | | Small Hosp OCONUS | Small Hosp OCONUS | Small Hosp OCONUS | Small Hosp OCONUS | | Small Hosp OCONUS |
| Clinics OCONUS | | Clinics OCONUS | Clinics OCONUS | Clinics OCONUS | Clinics OCONUS | | Clinics OCONUS |

**TMA MEPRS Program Office
Management Control and Financial Studies
Division**

By the end of this presentation, you will be able to:

- **Describe the origin and goals of Six Sigma**
- **Identify how Six Sigma is used in healthcare and other industries**
- **Understand and correctly interpret the S2M3 tool**
- **Understand how individual MTF characteristics can affect its position among its peer group/cohort.**
- **Locate tools to help you begin exploring data quality opportunities**

Six Sigma

- *Six Sigma is a statistics based business improvement process that continually strives for perfection.*
- *It employs a disciplined methodology created from the manufacturing industry for eliminating the wastes of defects or variance to lower costs and improve customer satisfaction.*

Six Sigma Methodology for Improving Existing Processes

DMAIC

- **Define Opportunities**
- **Measure Performance**
- **Analyze Opportunity**
- **Improve Performance**
- **Control Performance**

Six Sigma in Healthcare:

- Transcription businesses are able to identify the root cause responsible for the majority of errors committed by transcriptionists and thereby reducing significant numbers of errors.
- Gratiot Medical Center, in Michigan, was losing substantial revenue due to inconsistent registration and authorization procedures in the billing process. Almost immediately, they saw a significant drop-off in denials and they increased their revenue over \$100,000 in one year.
- West Branch Regional Medical Center in Michigan focused on a primary driver customer satisfaction: the Emergency Department. Elopement was reduced from 28 per month to 17 per month over a three-month period. The average stay for admits in the ED dropped from 2.6 hours to 1.6 hours. The additional capacity in ED has the potential to generate over \$150,000 in revenue per year.

Six Sigma MEPRS Management Metrics (S2M3)

FY08 Update

All data obtained from the EAS IV Repository and M2 in April 20, 2009



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|---------------------|--|---|------------------------|--------------------------|--------------------------|-------------------------|--------------------------|
| Medical Center | Medical Center | Medical Center | Medical Center | Medical Center | Medical Center | Medical Center | Medical Center |
| Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals | Large Hospitals |
| Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals | Small Hospitals |
| Large Clinics | Large Hosp OCO | Large Clinics | Large Clinics | Large Clinics | Large Clinics | Large Hosp OCO | Large Clinics |
| Small Clinics | Small Hosp OCO | Small Clinics | Small Clinics | Small Clinics | Small Clinics | Small Hosp OCO | Small Clinics |
| Large Hosp OCO | | Large Hosp OCO | Large Hosp OCO | Large Hosp OCO | Large Hosp OCO | | Large Hosp OCO |
| Small Hosp OCO | | Small Hosp OCO | Small Hosp OCO | Small Hosp OCO | Small Hosp OCO | | Small Hosp OCO |
| Clinics OCONU | | Clinics OCONU | Clinics OCONU | Clinics OCONU | Clinics OCONU | | Clinics OCONU |

Executive Summary:

[Medical Centers](#)
[Large Hospitals](#)
[Large Hospitals OCONUS](#)
[Small Hospitals](#)
[Small Hospitals OCONUS](#)
[Large Clinics](#)
[Small Clinics](#)
[Clinics OCONUS](#)

Notes:

[Six Sigma Description](#)
[Definition of Metrics](#)
[Data Sources](#)
[Peer Group Definitions](#)

External MEPRS Resources:

[MEPRS Web Portal](#)
[MEWACS](#)
[MEPRS Manual DoD 6010.13-M](#)
[Human System Interface \(HSI\)](#)

MTF-Peer Group Lookup:

[Air Force](#)
[Army](#)
[Navy](#)

If you have questions on the data contained, please contact:

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Six Sigma MEPRS Management and Control Metrics

FY 08 S2M3

Standardized Executive Summary by Peer Group*

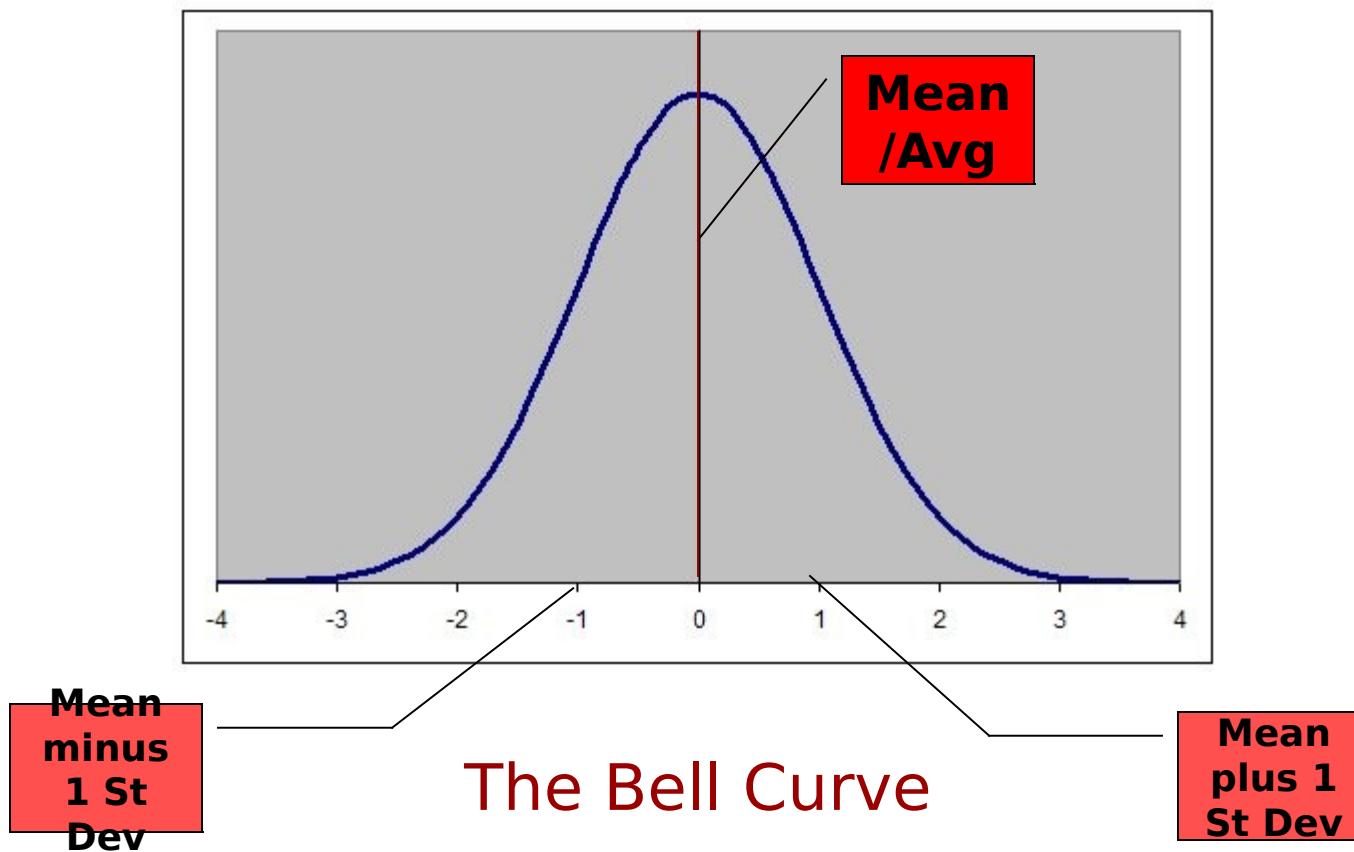
| DMIS ID | MTF Name | Rx Dispensing Costs | Available FTE per Daily Occupied Bed | Ratio of Support Personnel to Provider FTEs | Rx Workload per Rx FTE | Lab Workload per Lab FTE | Rad Workload per Rad FTE | Inpatient Costs per RWP | Ambulatory Costs per APG | Standardized Average |
|------------------------|--------------------------------|---------------------|--------------------------------------|---|------------------------|--------------------------|--------------------------|-------------------------|--------------------------|----------------------|
| Medical Centers | | | | | | | | | | |
| 0089 | WOMACK AMC-FT. BRAGG | 1.35 | -0.52 | 3.18 | 0.45 | -0.16 | 0.72 | 0.86 | 1.17 | 0.88 |
| 0125 | MADIGAN AMC-FT. LEWIS | -0.84 | 0.59 | 0.28 | -0.55 | 1.19 | 2.07 | 0.68 | 0.96 | 0.55 |
| 0052 | TRIPLER AMC-FT SHAFTER | 0.77 | 0.32 | 0.20 | 1.23 | 0.00 | 0.23 | 0.46 | 1.14 | 0.54 |
| 0029 | NMC SAN DIEGO | 0.31 | 1.33 | -0.14 | -0.10 | 1.46 | -0.44 | 0.95 | 0.10 | 0.43 |
| 0108 | WILLIAM BEAUMONT AMC-FT. BLISS | 0.85 | 0.47 | -0.35 | 0.59 | 1.15 | -0.27 | 0.43 | 0.41 | 0.41 |
| 0117 | 59th MED WING-LACKLAND | 0.54 | -0.22 | -0.60 | 1.22 | 1.68 | 1.75 | -0.78 | -1.43 | 0.27 |
| 0109 | BROOKE AMC-FT. SAM HOUSTON | 0.01 | -0.19 | 0.10 | 1.22 | -0.30 | -0.62 | 0.39 | 0.05 | 0.08 |
| 0047 | EISENHOWER AMC-FT. GORDON | 0.21 | 0.56 | 0.49 | -0.72 | -1.50 | -0.03 | 0.36 | 1.17 | 0.07 |
| 0067 | NNMC BETHESDA | 0.75 | 0.89 | -0.79 | 1.48 | -0.23 | 0.37 | -1.55 | -1.05 | -0.02 |
| 0124 | NMC PORTSMOUTH | 0.52 | -0.30 | -0.65 | -0.51 | -0.07 | -0.81 | 0.55 | 0.92 | -0.04 |
| 0037 | WALTER REED AMC-WASHINGTON DC | -1.06 | 1.07 | -0.18 | -1.00 | -0.39 | -0.18 | 0.05 | -1.33 | -0.38 |
| 0095 | 74th MED GRP-WRIGHT-PATTERSON | -0.17 | -0.53 | -0.80 | -1.03 | -0.99 | -1.36 | 0.38 | -0.80 | -0.66 |
| 0014 | 60th MED GRP-TRAVIS | -2.48 | -0.85 | -0.40 | -1.23 | -0.80 | -0.13 | -0.18 | -0.13 | -0.77 |
| 0073 | 81st MED GRP-KEESLER | -0.75 | -2.62 | -0.35 | -1.06 | -1.03 | -1.31 | -2.60 | -1.20 | -1.37 |

***Note:**

The S2M3 Executive Summary has been standardized to reflect uniform positive/negative Z-score values across all metrics, thus positive Z-scores indicate more desirable values and negative Z-scores are less desirable values. For example, in the Pharmacy Dispensing Cost metric a negative Z-score denotes a dispensing cost that falls below the peer group average. Since in that case a negative Z-score is more desirable than a positive value, the Z-score sign reflected in the S2M3 Executive Summary has been changed to positive. The Z-score signs have been reversed for the following metrics in this Executive Summary:

- Rx Dispensing Costs
- Available FTE per Daily Occupied Day
- Inpatient Costs per RWP
- Ambulatory Costs per APG

**Parent DMIS ID 1350 is a clinic with no associated ancillary workload or expenses.



FY08 Cost of Pharmacy Dispensing: Medical Centers

FY08 Cost of Pharmacy Dispensing Summary Statistics

| Parent DMIS ID | Parent DMIS ID Name | Raw Work | Rx \$ Less Supply Cost | Disp Cost per Script | Z Score | |
|----------------|--------------------------------|-----------|------------------------|----------------------|---------|--|
| 0089 | WOMACK AMC-FT. BRAGG | 1,259,196 | \$ 4,999,729 | \$ 3.97 | -1.35 | <div>Better</div> <div>↑</div> <div>↓</div> <div>Worse</div> |
| 0108 | WILLIAM BEAUMONT AMC-FT. BLISS | 550,173 | \$ 3,224,905 | \$ 5.86 | -0.85 | |
| 0052 | TRIPLER AMC-FT SHAFTER | 621,107 | \$ 3,816,048 | \$ 6.14 | -0.77 | |
| 0067 | NNMC BETHESDA | 509,036 | \$ 3,177,896 | \$ 6.24 | -0.75 | |
| 0117 | 59th MED WING-LACKLAND | 577,821 | \$ 4,042,223 | \$ 7.00 | -0.54 | |
| 0124 | NMC PORTSMOUTH | 1,267,361 | \$ 8,960,309 | \$ 7.07 | -0.52 | |
| 0029 | NMC SAN DIEGO | 1,305,939 | \$ 10,286,007 | \$ 7.88 | -0.31 | |
| 0047 | EISENHOWER AMC-FT. GORDON | 679,569 | \$ 5,617,121 | \$ 8.27 | -0.21 | |
| 0109 | BROOKE AMC-FT. SAM HOUSTON | 585,961 | \$ 5,272,193 | \$ 9.00 | -0.01 | |
| 0095 | 74th MED GRP-WRIGHT-PATTERSON | 510,959 | \$ 4,949,897 | \$ 9.69 | 0.17 | |
| 0073 | 81st MED GRP-KEESLER | 384,675 | \$ 4,563,353 | \$ 11.86 | 0.75 | |
| 0125 | MADIGAN AMC-FT. LEWIS | 926,665 | \$ 11,289,567 | \$ 12.18 | 0.84 | |
| 0037 | WALTER REED AMC-WASHINGTON DC | 586,310 | \$ 7,616,721 | \$ 12.99 | 1.06 | |
| 0014 | 60th MED GRP-TRAVIS | 434,948 | \$ 7,977,174 | \$ 18.34 | 2.48 | |

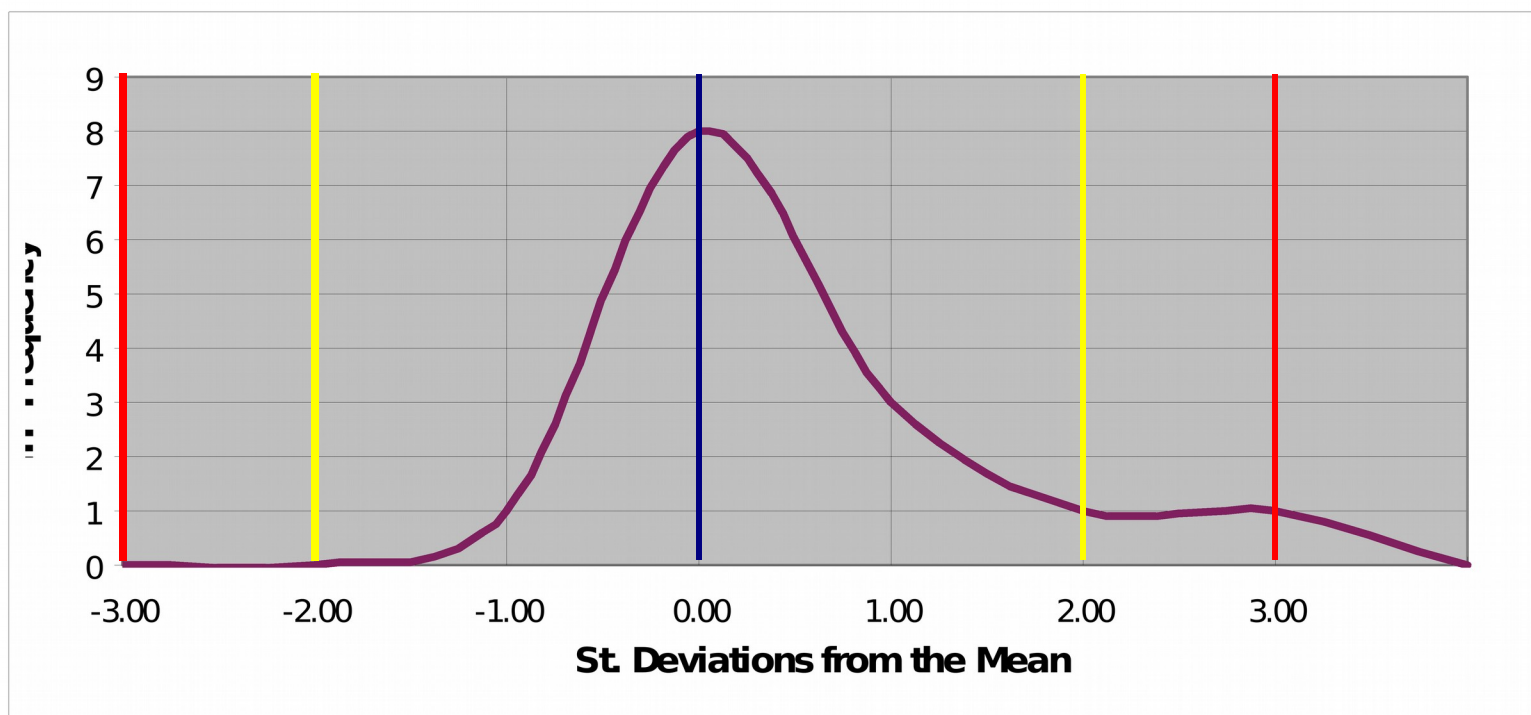
| Statistic | Raw Work | Rx \$ Less Supply Cost | Dispensing Cost per Script |
|-----------------|----------|------------------------|----------------------------|
| Mean: | 728,551 | \$ 6,128,082 | \$ 9.03 |
| Median: | 586,136 | \$ 5,135,961 | \$ 8.07 |
| St. Dev: | 322,676 | \$ 2,638,729 | \$ 3.75 |

- Value nearest peer group mean
- MTFs within 1 Std. Deviation from the peer group mean
- 2 Std. Deviations above/below the peer group mean
- 3 Std. Deviations above/below the peer group mean

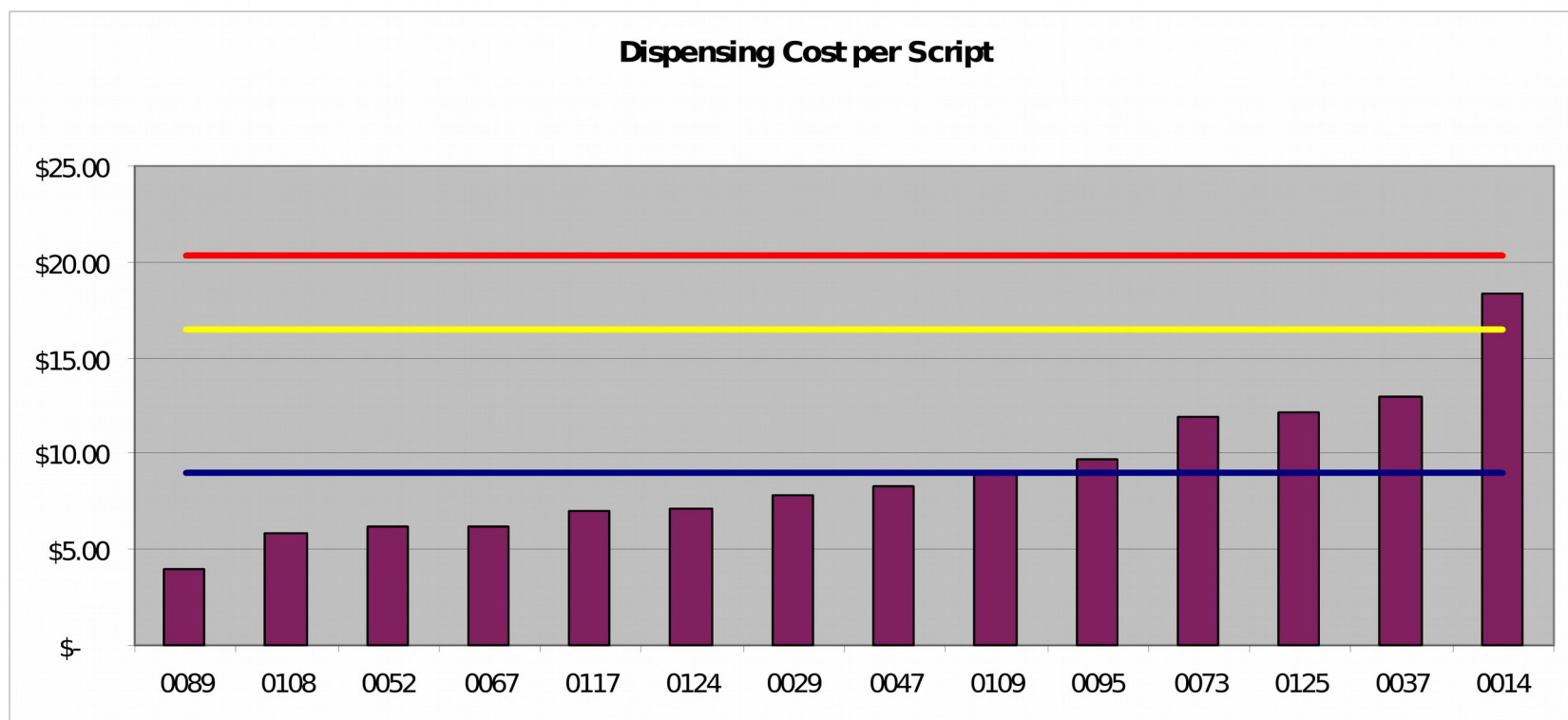
FY07/08 Cost of Pharmacy Dispensing: Medical Centers

Peer Group Graphs

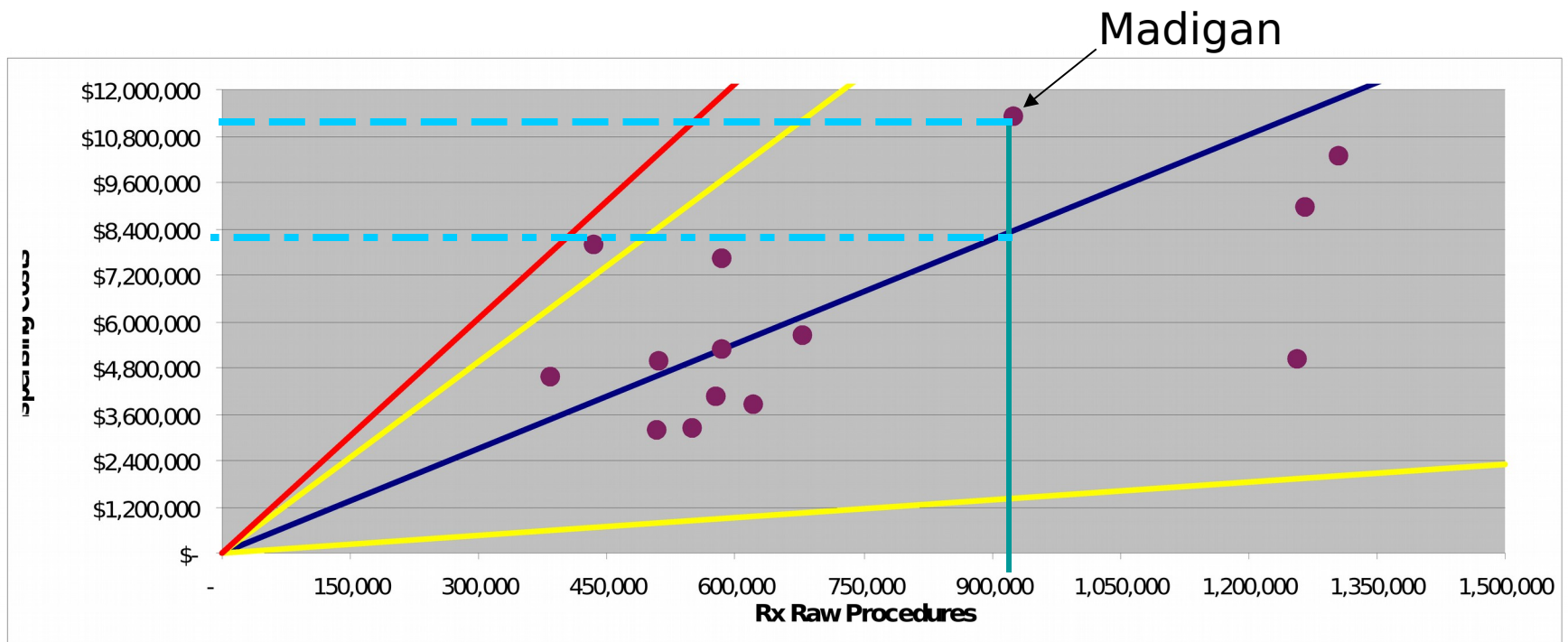
- Lines Represent +/- 3 Standard Deviations from the peer group mean
- Lines Represent +/- 2 Standard Deviations from the peer group mean
- Peer group mean



Graph 1



Graph 2



For roughly 900,000 scripts, we would expect the expenses to be around \$8,400,000 but at Madigan for the same number of scripts, the expenses are around \$11,000,000.

Graph 3

You can now:

- **Describe the origin and goals of Six Sigma**
- **Identify how Six Sigma is used in healthcare and other industries**
- **Understand and correctly interpret the S2M3 tool**
- **Understand how individual MTF characteristics can affect its position among its peer group/cohort.**
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Six Sigma MEPRS Management Metrics (S2M3)

Questions?